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 TI Manufacture of softened **cellulose fiber**-based products  
 and softening compositions  
 IN Evans, Robert D.; Morrison, Suzanne; Campbell, Clayton  
 PA Quaker Chemical Corp., USA  
 SO PCT Int. Appl., 46 pp.  
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 DT Patent  
 LA English  
 IC ICM D21H021-24  
 ICS D21H017-10; D06M013-292; D06M013-44; D06M013-165; D06M015-53  
 CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)  
 FAN.CNT 1

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PI	WO 9731153	A1	19970828	WO 1997-US2423	19970218
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	AU 9722744	A1	19970910	AU 1997-22744	19970218
	EP 882157	A1	19981209	EP 1997-906919	19970218
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PRAI	US 1996-604818	A	19960223		
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# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9731153	ICM	D21H021-24
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AB A process and compn. for softening **cellulose fibers**  
 for the manuf. of softened **cellulose fiber**-based  
 products such as paper towels, facial tissue, sanitary tissues, toilet  
 tissues, nonwoven fabrics and fluff pulp, and the products made by said  
 process are disclosed. The process maintains a high level of wet strength  
 in the finished paper product contg. suitable wet strength additives, as  
 measured by the wet tensile strength of the dry web. The process includes  
 treating **cellulose fiber** with chem. softening compn.  
 comprising phospholipids, a nonionic **surfactant** and, optionally,  
 a lubricant. The phospholipids include phosphatidylcholine (lecithin),  
 hydroxylated phosphatidylcholine, phosphatidylethanolamine, hydroxylated  
 phosphatidylethanolamine, phosphatidylserine, hydroxylated  
 phosphatidylserine, phosphatidylinositol and hydroxylated  
 phosphatidylinositol.  
 ST tissue paper softener phospholipid **surfactant** compn; towel paper  
 softener phospholipid **surfactant**; facial tissue softener  
 phospholipid **surfactant**; nonwoven softener phospholipid  
**surfactant** compn; sanitary tissue softener phospholipid